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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,392	08/24/2001	James Roberge	71416	3939

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EXAMINER

VO, HUYEN X

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,392

Applicant(s)

ROBERGE ET AL.

Examiner

Huyen Vo

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/30/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-4, 8-9, and 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ryan (US Patent No. 5809476).

3. Regarding claim 1, Ryan discloses a method for populating a main database from speech recognition output based on verbal utterances of a user, said method comprising:

a) developing a series of contexts, each context comprising a series of navigational commands for populating a selected series of data items of the main database, and each context represented by a context identifier (*col. 3, ln. 21-35*);

b) creating a word-mapping database for each context, said word-mapping database containing a words drawn from narrative statements (written and oral) associated with the data items in the selected context, as well as linkages between these words and data items (*col. 3, ln. 50 to col. 4, ln. 8*);

c) identifying a selected context by comparing the context identifier of the selected context with speech recognition output generated based on a context-identifying verbal utterance of the user (*col. 3, ln. 4-14 and col. 4, ln. 9-49*);

d) recording selected data items within the selected context by mapping the speech recognition output generated based on utterances of the user to data items in the main database using the word-mapping database for the selected context (*col. 3, ln. 4-14 and col. 5, ln. 1-28*); and

e) repeating steps c) and d) until the user finishes entering data, thereby populating the main database (*the operation of figures 1-3 is a continuous process*).

4. Regarding claim 8, Ryan discloses a method for populating a main database from speech recognition output based on verbal utterances of a user, comprising:

a) defining a workflow for populating a selected set of data items in the main database, each workflow providing custom knowledge comprising a series of navigational commands and a context identifier for associating spoken utterances with explicitly coded data relating to the workflows (*col. 3, ln. 21-35*);

b) identifying the workflow being employed (*col. 3, ln. 4-14 and col. 4, ln. 9-49*);

c) creating a word-mapping database for each workflow (*col. 3, ln. 50 to col. 4, ln. 8*); and

d) populating the selected series of data items for the identified workflow using the series of navigational commands and comparing speech recognition output generated based on the verbal utterances of the user to obtain words and explicitly

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coded data for populating the main database (*col. 3, ln. 4-14 and col. 5, ln. 1-28, the selected data are stored in the database for later interrogation or analysis*).

5. Regarding claim 13, Ryan discloses a system for populating a main database from speech recognition output based on verbal utterances of the user, comprising:

a context identifier for establishing a workflow for information processing of a series of navigational commands for populating a selected series of data items in the main database (*col. 3, ln. 21-35*);

a word-mapping database created for each context identifier comprising words of possible entries of the data items in the context (*col. 3, ln. 50 to col. 4, ln. 8*);

a processor for comparing information from the context identifier with speech recognition output generated based on a context-identifying utterance of the user (*col. 3, ln. 4-14 and col. 4, ln. 9-49*);

a memory device associated with the main database for populating the selected series of data items for the selected context of the context identifier using the series of navigational commands and the speech recognition output (*col. 3, ln. 4-14 and col. 5, ln. 1-28, computer system must includes RAM and/or ROM*).

6. Regarding claims 3-4 and 11, Ryan further discloses the method of claims 1 and 8, wherein the main database is a medical records database and the series of contexts are developed based on completion of data entry for generation of a medical report (*col. 6, ln. 35 to col. 7, ln. 45*), and wherein speech recognition output is mapped to data

items in the selected context using a word-mapping database that includes a set of designated keywords representing spoken phrases for populating data items and by comparing speech recognition output to these keywords (*col. 3, ln. 50 to col. 4, ln. 50*).

7. Regarding claim 9, Ryan further discloses a method as recited in claim 8, wherein the defining of the workflows comprises developing a series of contexts for populating the selected data items in the main database with each context being represented by the context identifier (*col. 4, ln. 51-67, "code snippets" are identifiers for different contexts*).

8. Regarding claim 12, Ryan further discloses a method as recited in claim 8, wherein the defined workflows use the context identifier to provide metrics for scoring the selected context's speech recognition output based on the context-identifying verbal utterance of the user (*col. 4, ln. 51-67, "code snippets" are identifiers for different contexts*).

9. Regarding claim 14, Ryan further discloses a system as recited in claim 13, wherein processor identifies the selected context associated with the context identifier using metrics for comparing the context identifier with the speech recognition output for generating scores associated with the context-identifying verbal utterance of the user (*col. 4, ln. 36-67, "code snippets" are identifiers*).

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10. Regarding claim 15, Ryan further disclose the step of employing a speech recognition system to interpret the input speech (*col. 3, ln. 4-14*), but fails to specifically disclose that the processor employs multi-level scoring for generating the speech recognition output. However, the examiner takes official notice that multi-level scoring speech recognition output is well known in the art. The advantage of this is to enhance speech recognition accuracy.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan (US Patent No. 5809476) in view of Zhilyaev (US Patent No. 6137911).

13. Regarding claim 6, Ryan fails to specifically disclose the method of claim 4, wherein the word mapping is performed by calculating the number of keywords in a phrase that match speech recognition output, by calculating the ratio of keywords in a phrase that match speech recognition output to the total keywords in a phrase, or by performing a string comparison algorithm. However, Zhilyaev teaches that the word mapping is performed by calculating the number of keywords in a phrase that match

speech recognition output (*equation 8 in col. 8*), by calculating the ratio of keywords in a phrase that match speech recognition output to the total keywords in a phrase, or by performing a string comparison algorithm (*col. 11, ln. 64 to col. 12, ln. 5*).

Since Ryan and Zhilyaev are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Ryan by incorporating the teaching of Zhilyaev in order to enhance the classification accuracy by determining if input belongs to a certain cluster or group.

14. Regarding claims 2 and 10, Ryan further discloses the method of claims 1 and 8, wherein the series of contexts and word-mapping databases are developed using a hierarchically-organized database representation based on knowledge regarding the relationship of data items in the main database, said hierarchically-organized database representation having a plurality of nodes capable of having further related nodes, fields, or attributes (*col. 6, ln. 12-32, nodes, fields, or attributes are sub-categories or sub-group within a classification. This is inherent in hierarchical database*).

15. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan (US Patent No. 5809476) in view of Zhilyaev (US Patent No. 6137911) and further in view of Li (US Patent No. 5774588).

16. Regarding claim 5, Ryan fails to disclose the method of claim 4, wherein speech recognition output is compared to the words of the word-mapping database by: a)

calculating the number of keywords in a phrase that match speech recognition output to generate a keyword match number; b) prioritizing phrases with identical keyword match numbers by calculating the ratio of keywords in a phrase that match speech recognition output to the total keywords in a phrase to generate a keyword match ratio; and c) prioritizing phrases with identical keyword match ratios by performing a string comparison algorithm.

However, Zhilyaev teach that the speech recognition output is compared to the words of the word-mapping database by: a) calculating the number of keywords in a phrase that match speech recognition output to generate a keyword match number (*col. 11, ln. 30 to col. 12, ln. 67*); b) prioritizing phrases with identical keyword match numbers by calculating the ratio of keywords in a phrase that match speech recognition output to the total keywords in a phrase to generate a keyword match ratio (*col. 11, ln. 30 to col. 12, ln. 67*).

Since Ryan and Zhilyaev are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Ryan by incorporating the teaching of Zhilyaev in order to enhance the classification accuracy by determining if input belongs to a certain cluster or group.

The modified Ryan still fails to specifically disclose the step of c) prioritizing phrases with identical keyword match ratios by performing a string comparison algorithm. However, Li teaches the step of prioritizing phrases with identical keyword match ratios by performing a string comparison algorithm (*col. 10, ln. 1-10*).

Since the modified Ryan and Li are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Ryan by incorporating the teaching of Li in order to enhance the comparison accuracy.

17. Regarding claim 7, the modified Ryan fails to specifically disclose the method of claim 6, wherein the string comparison algorithm comprises the Edit Distance method. However, Li teaches that the string comparison algorithm comprises the Edit Distance method (*col. 10, ln. 1-10*).

Since the modified Ryan and Li are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Ryan by incorporating the teaching of Li in order to enhance the comparison accuracy.

Conclusion

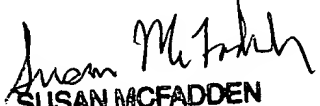
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Huyen X. Vo

December 8, 2004


SUSAN MCFADDEN
PRIMARY EXAMINER